



*North Carolina  
Department of Commerce  
State CIO IT Plan for  
2009 – 2011 Biennium*

*September 30, 2008*

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*State CIO*  
*Departmental/Agency IT Plans*  
*2009 – 2011 Biennium*

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## Executive Summary

The North Carolina Department of Commerce is the state's leading economic-development agency, working with local, regional, national and international companies. Providing effective and efficient information services to such a competitive audience requires a much higher commitment than just being “average”. In the digital age of today, opportunities to engage new and existing clients may be more prevalent but also come with a higher cost. You may only have one brief chance to show a client your business portfolio before they move along to your competition. For this reason, simply being “average” is much like being non-existent. This department understands the need for most of the day-to-day repetitive processes to be hosted by reliable, industry-standard platforms providing business continuity to maintain a functional organization. However, this department also realizes that in order to effectively market the state’s resources to diverse clients, you must be able to provide information in a dynamic, scalable fashion – meeting needs on client’s terms.

Commerce MIS is currently striving to address these needs in an efficient, effective and cost-wise manner through a variety of hardware and software projects. Below are some of the more note worthy initiatives currently underway:

- **Application Security Framework** – Due to the ever-increasing requirement for information to be developed, organized, presented and delivered in a digital medium, Commerce’s need to provide enhanced security of the information has increased accordingly. Within this initiative lies a methodology to provide a means to provide appropriate protection for malicious attacks via internal and external communication channels. By filtering web traffic against known attack vectors, web-based services will experience increased stability and performance while decreasing the use of bandwidth for unwanted or unnecessary traffic.

Providing a more secure, stable and available environment will also serve our department’s mission to maintain a strong presence for potential business entities hoping to maintain existing or develop new relationships with the state.

- **BLIO Permits/Licensing Information Management Systems** – The primary goal for the Business License Information Office (BLIO) is to provide prospective businesses consultation, information and referrals. BLIO utilizes a system that lists current contact information of authorized state agencies and affiliates and provides granular information for clients. The system in use today utilizes a programming platform no longer covered under industry support. The opportunity addressed by this initiative is to provide the necessary support for the heavily utilized BLIO system. This scope of this project is to convert the base system to .NET and C# as well as to meet with the business owner to determine any additional enhancements that can greatly benefit the BLIO staff, their clients or delivery of their service.
- **Building & Sites Redesign** – In order for NC to remain competitive with other states for recruiting business and industry, the NC Department of Commerce is currently redesigning the Buildings and Sites system to better market NC’s available product. The redesign includes redesigning the database itself to incorporate expanded and more relevant data including geospatial information; developing new and improved data collection interfaces that will ensure better data quality the more timely and accurate data collection and maintenance; and expanding the buildings and sites search tools to add additional search fields, enhanced reporting capabilities, detailed demographic analysis, and GIS capabilities. This application will leverage the technology investment of the successfully implemented Economic Development Intelligence System (EDIS).
- **SharePoint Consolidation** – The construction of a new framework of process, application and storage models will establish a platform for management and exchange of information, both

within and outside the Department of Commerce. The new system will offer collaborative information exchange governed by three distinct authentication levels:

- 1) Anonymous - providing open access to select materials
- 2) Secure - role-based access via Active Directory Access control
- 3) Hybrid - role-based access via state-governed Access control

SharePoint offers a unified environment for tracking diverse materials and resources. This initiative provides a web-based interface allowing clients to collectively contribute content in an organized process. The system allows work to flow in a controlled environment providing repeatable work processes thus ensuring standards of performance and accountability. SharePoint technology allows the organization to surface both latent institutional information and readily access business data necessary to meet the department's mission.

- **Financial Management Information System (FMIS)** – The Division of Workforce Development (DWD) utilizes the FMIS to manage grants received from the Federal Government. This system, tasked to distribute the \$100,000,000 per year to twenty-four Local Workforce Boards and other state partners, serves as an integral function of the mission of the division. Unfortunately, this obsolete system was developed many years ago and is currently operating without dependable support. DWD has raised the replacement of this application as a critical endeavor and hopes to acquire a more suitable and supportable solution to carry their payment process into the future.

### **Major Factors Influencing the Plan**

The department's mission is **to improve the economic well-being and quality of life for all North Carolinians**. The mission is carried out by serving existing business and industry, including providing international trade assistance; recruiting new jobs and domestic and foreign investment; encouraging entrepreneurship and innovation; marketing North Carolina and its brand; supporting workforce development; strengthening communities; and promoting tourism, film and sports development. The Department also provides data, statistics, information and reports for state government and agencies, which regulate commerce in the state.

Our strategic plan focuses on:

1. **Keeping North Carolina competitive** by actively recruiting and encouraging the expansion of high-value, technologically advanced industries and companies. We target companies considered "high-tech" in industries such as telecommunications and biotechnology, and companies that apply new and innovative technology to remain competitive in traditional industries, such as textiles and furniture. Service-oriented industries such as healthcare, education, and financial services are also core components of the state's economy.
2. **Increasing economic opportunities for our state** in a global economy by ensuring that North Carolina is recognized throughout the world as an attractive location for growing businesses, for the high quality of its workforce, and for its appeal as a tourism, film and sports development destination.
3. **Improving economic opportunities for all of our citizens** through programs targeted to people and places not currently enjoying economic prosperity.

## **Current Situation and Desired State of Major IT Applications/Infrastructure Assets, Personnel, Projects, and Management Functions**

*The Department of Commerce is currently participating in phase two of the ITS Consolidation project being conducted by ITS and OSBM. It is our understanding that following the successful completion of the consolidation project, information systems support functions which will remain with Commerce MIS will include, but are not limited to the following items: NCID administration, Active Directory user administration, Email client administration, Security Liaison, software licensing (unique), purchasing and accounts payable administration, business continuity and disaster recovery, non-ITS supported end user hardware/software support, RACF administration and Application Development / user administration.*

*In a best-case scenario, working with a simplified service delivery portfolio will allow MIS to focus specifically on aligning the retained functions to unique business models. In this way, we can more effectively provide exceptional services to our internal and external clients.*

## **Major Initiatives and Investments**

### **Application Security Framework**

**Summary description** – *Analyze, research, evaluate, procure, configure, monitor and maintain Web Application Firewall for web applications and ancillary services.*

**Problem or opportunity to be addressed** – *Due to increasing level of malicious activities directed against web applications, it has become imperative to harden our web security posture.*

**Major objectives to be achieved and business benefits/value that will accrue to the agency/state** – *By implementing the new Application Security Framework we will increase the overall security of our data, decrease unnecessary web traffic, increase availability of web services, enhance performance and stability of web applications, decrease risk of malicious defacement of web-based applications.*

*By implementing a centralized web security posture, the department experiences increased hardware and software efficiencies and enables developers to focus on application development necessary to support and enhance the strategic mission of the Department of Commerce. This proactive security posture promises to increase the availability of the department's information and services. Since a large portion of the departments mission is to develop and maintain positive relationships with potential clients, providing strong, professional and reliable information channels is critical.*

**Approach for accomplishing it** – *Initial analysis, research and evaluation of existing security vulnerabilities will be performed by the Commerce MIS team. The result of this analysis will yield a risk profile that will provide guidelines for selecting the appropriate security solution. Potential technologies will be evaluated for effectiveness and cost benefits. Pursuant to the evaluation, the selected technology will be acquired, implemented and staff will be educated in the proper use and maintenance of the technology.*

**Timeframe** – *The department has already performed the risk analysis profile and is currently evaluating potential technologies.*

**Major risks** – This solution offers a centralized approach toward web security, thus inherently it creates the risk of a central point of failure. This risk will be mitigated by establishing an agreement with ITS to automate a recovery process in the event of failure. Additionally, the success of this initiative will be dependent on maintaining a knowledgebase of dynamic threats and how they may affect the department's mission. While this initiative will present challenges to Commerce's MIS staff, this pro-active systemic approach as opposed to a reactive ad-hoc approach promises to yield man-hour efficiencies and enhanced service delivery.

**Relationship with statewide initiatives/projects and common shared services** - Our initiative augments ITS's security offerings by providing a web application security layer. Commerce MIS contacted ITS' Statewide Security Office to determine if an enterprise-level web application security solution was available and ITS informed us that at present they do not offer this service.

**Order-of-magnitude costs** - An approximated cost of \$138,000 covering a 5-year period is based upon the calculation of currently incurred cost structures. Following the ITS consolidation effort and new charge models, this cost may be significantly higher or lower.

### **BLIO Permits/Licensing Information Management Systems**

**Summary description** – A centralized web-based application updated by multiple state agencies and administered by the Service Center staff providing the general public access to all of the state's business licenses and permits.

**Problem or opportunity to be addressed** – Primarily, the application will be re-engineered into a .NET environment in order to maintain compliance with current web programming vendor support. Additionally, the new technology will provide enhanced security and compatibility with industry-standard software development architecture.

**Major objectives to be achieved and business benefits/value that will accrue to the agency/state** – The primary reason for reconstructing this application into a .NET environment is to allow continued vendor support of the application platform. However, additional benefits will be achieved after introducing necessary functionality upgrades as requested by the business owner.

**Approach for accomplishing it** – Due to the developers' in-depth understanding of the current application's functionality gleaned from prior development, the analysis phase will be minimized. The following process will involve constructing enhancements to the application with the business owner then progressing to the actual development into .NET environment. Service Center staff will test the newly constructed application for correct functionality. Once the business owner approves the new application, it will move into production and the previous version archived.

**Timeframe** – The current plan is to begin this process in the fourth quarter of 2008 and end by third quarter of 2009.

**Major risks** – As this application conversion will be replacing a functional application in place today, there remains a risk of a critical event occurring that could supersede this project's delivery date. In addition, during the requirement's gathering meeting with the business owner, excessive requests for additional features may occur.

**Relationship with other agency IT initiatives/programs/projects** – *This application is a stand-alone, custom-written solution to provide specific functionality to the Service Center. It was constructed specifically to address requirements of the Service Center. Therefore, it is unlike any other “common” or “generic” solution.*

**Relationship with statewide initiatives/projects and common shared services** – *This division serves as a single point of contact for new and existing business licenses and permits for the state. As such, it is the sole owner of licensing and permit data.*

**Order-of-magnitude costs** – *An approximated cost of \$127,000 covering a 5-year period is based upon the calculation of currently incurred cost structures. Following the ITS consolidation effort and new charge models, this cost may be significantly higher or lower.*

### **Building & Sites Redesign**

**Summary description** - *Nearly a decade ago, the NC Department of Commerce, in collaboration with many members of the state’s economic development community, developed and implemented NC SiteSearch ([www.ncsitesearch.com](http://www.ncsitesearch.com)). At that time, this web-based system employed cutting edge technology and was a landmark effort in providing building and site data online, worldwide 24/7.*

*Since the implementation of NC SiteSearch, numerous technological advances have taken place and the standard for providing building and site information has risen considerably, as has the demand for such data. Conversely, there have been no significant enhancements to the NC SiteSearch system since its inception. Although the system has been stable and effective, due to age and a rapidly changing economic development environment, it no longer meets the increasingly complex business demands of the Department of Commerce, our partners, or the worldwide marketplace in which we must now compete. In comparison to many systems now deployed in other states and countries (who happen to be our economic development competitors), our system offers limited functionality, has issues related to data quality/accuracy, and fails to adequately address our current business requirements (geographic integrity, images, reports, analytics, etc.).*

*The Economic Development Intelligence System (EDIS), another web-based data delivery tool, was released in December 2007 to meet growing demand for richer and more varied analytical, statistical and demographic data associated with site locations, including the expectation to visually plot this data on graphically compelling maps. EDIS is designed to aid strategic economic development activities, community development activities and research including:*

- *Navigating and researching our state and communities using a first-class mapping system*
- *Finding suitable buildings and sites*
- *Conducting detailed analysis around a building or site*
- *Searching and mapping potential suppliers and purchasers*
- *Generating standard and customized county reports and comparison reports*
- *Pinpointing and analyzing data within specific distances from a given location (so called Radius Reports, a unique feature of EDIS)*
- *Analyzing state and national data on workforce, demographics, income, housing, business locations, consumer expenditures, quality of life, business locations, taxes and much more*



Currently both EDIS and the older NC SiteSearch provide certain building and sites data, but the two systems are not integrated. As a result of this missing integration, the two systems present disjointed information to our clients. While NC SiteSearch provides facility and site pictures and some marketing reports, it does not provide spatial data or detailed analytical capabilities. While the first phase of the EDIS system provides excellent analytical tools, it cannot yet provide photographs and the building search function is not as prominently visible as it will be in the EDIS structure, once the planned system integration is complete.

**Problem or opportunity to be addressed** – In economic development projects, the first step company or consultant decision makers often take is to search for an appropriate building and/or site in a given locale. Indeed, data suggests nearly 80% of all companies considering relocation or expansion conduct online searches for available facilities in which to locate. This is an extremely time sensitive and competitive process, and in today's information on-demand world, many of these searches take place before Commerce or local economic development professionals are even aware a company is initiating a project. For this reason, it is imperative that the buildings and sites information collected by the State of NC be comprised of the most timely, accurate, detailed and complete data possible. It is equally vital that this data be presented in the most professional and compelling manner achievable in order to encourage direct interaction with companies and consultants in their site selection process.

**Major objectives to be achieved and business benefits/value that will accrue to the agency/state** – The goal of the Buildings & Sites Redesign project is to develop a state-of-the-art web-based system that integrates with EDIS and provides robust functionality, more accurate data and an improved user interface.

**Approach for accomplishing it** – This overall project approach is one that includes an engaged Executive Sponsor, a Project Manager, and a well-functioning Core Project Team to manage the project. This project also includes a group of key stakeholders that will play an advisory role regarding requirements, business processes, etc. The selected vendor will also include a PMP certified project manager. The project will be managed to the ITS/EPMO workflow, including deliverables required for signoff at each phase.

**Timeframe** - The following are the initial project milestones for the B&S Redesign project. These dates help to provide a general timeframe for the project, but should be considered a rough estimate at this point to avoid setting expectations that may not be met.

Upon completion of the first phase of project work with the vendor (Planning & Design), a refined schedule and cost estimate will be "baselined" (placed under formal project control) at the conclusion of this phase. While changes to this baselined schedule are expected, the accuracy of the schedule should continue to be sharpened as the project moves through the corridor of time. Throughout the project, the goal will be to manage change, not avoid it.

Milestone 1: Initiation Complete	05/28/2008
Milestone 2: Planning & Design Phase complete	10/31/2008
Milestone 3: Build & Execute Phase complete	02/20/2009
Milestone 4: Implementation complete	02/28/2009

**Major risks –**

1. **Risk:** Due to the technological complexity with this project, and the cross-functional ownership/management of those technologies (vendor, IS, PRSP, ITS), coordinating resources will be a challenge.  
**Mitigation:** Robust communication, an interactive and well-functioning team, and good project discipline will best position Commerce to mitigate this risk.
2. **Risk:** Because of the size of the stakeholder group, managing their expectations and communicating with them will be a challenge.  
**Mitigation:** Clear communications with the group about the advisory (but not final decision-making) nature of their role, along with regular, consistent communications will help mitigate this risk.
3. **Risk:** Even though this project is a key priority for Secretary Fain this year and funding is in place for Planning & Design Phase; funding is not completely identified for the Build & Execution Phase of the project.  
**Mitigation:** Continuing to closely manage costs, while continuing to look for sources of needed funding are the only ways to mitigate this risk.
4. **Risk:** Successful implementation of the system requires active use by the stakeholder community, so developing a business process that is valuable and includes their input is critical.  
**Mitigation:** A well-run, well-documented requirements gathering effort; clear communications about functionality changes; a solid training approach and plan; and clear business processes will be needed to mitigate this risk.
5. **Risk:** Gaining consensus in a timely manner within Commerce on key items is essential to project success. These items include (but are limited to) re-engineered business processes; assessing which capabilities of the current B&S system are needed in new system; developing a robust user interface; and reporting priorities. If the team bogs down on any of these items, the project could experience significant delays.  
**Mitigation:** Robust communication, an interactive and well-functioning team, and good project discipline will best position Commerce to mitigate this risk.

**Relationship with other agency IT initiatives/programs/projects –** The Buildings and Sites initiative will be integrated and served through the Economic Development Intelligence System (EDIS) Portal (SAS Portal). It will leverage the SAS reporting and GIS components from the EDIS application.

**Relationship with statewide initiatives/projects and common shared services -** The Buildings and Sites initiative will leverage NCID and the SAS Shared Service.

**Order-of-magnitude costs –**

<b>Budget Item</b>	<b>Detail</b>	<b>Total Estimated Budget</b>
Project Initiation	Internal Hours	\$8,330
Planning & Design		\$186,040

Execution & Build		\$364,898
Implementation		\$31,828
Closeout	Internal Hours	\$2,240
Operations & Maintenance	5 Years	\$963,500
<b>Total Cost (5 Years)</b>		<b>\$1,556,836</b>

## SharePoint Consolidation

**Summary description** – Integration of the department’s intranet, extranet and internet services providing augmented functionality and a uniform development platform.

**Problem or opportunity to be addressed** – The department’s current business process infrastructure does not inherently provide sufficient support for collaboration, enterprise content, workflow or project management.

**Major objectives to be achieved and business benefits/value that will accrue to the agency/state** – The envisioned solution will provide tools enabling all members of Commerce to contribute to the on-going improvement of business process and information exchange. SharePoint will facilitate the following:

- Electronic dissemination of information within the department and to the public
- Create, sustain and enhance relationships between public and private entities via an integrated and collaborative solution
- Provide an accountable archive of materials and processes employed in supporting the departments mandates
- Standardized templated information input, presentation, discovery, extraction within rights-defined accessibility
- Maintain technological currency with the business community
- Integrated, organized matching of needs and resources

SharePoint will provide a portal for resources and services to new and existing customers in an organized, intuitive and secure environment.

**Approach for accomplishing it** – Preparation for implementing the SharePoint environment will require the following discreet tasks:

- Evaluate SharePoint technologies
- MIS staff training for application support and development
- Deploy and configure base SharePoint environment
- Enable NCID integration
- SharePoint user training
- Port legacy CMS and ASP applications and content to new environment
- Customize and augment environment per content owners requirements
- Develop and test disaster recovery plans and policies
- Migrate remaining data
- Begin multi-stage implementation

- Archive legacy applications

**Timeframe** – Presently, this initiative is in the “Deploy and configure base SharePoint environment” stage. Additionally, content-owners are providing requirements and security measures are being evaluated. The technology deployment will occur in stages with the initial stage projected for the first quarter of 2009 with final stage planned for fourth quarter of 2009.

**Major risks** – Implementation of enterprise –level technical and business solutions carries with it multiple risks both in the area of technology challenges and user adoption resistance. Furthermore, the risk of loss of institutional knowledge is always present. The requirement of integrating our enterprise solution with state-mandated authentication introduces variables beyond our control.

**Relationship with other agency IT initiatives/programs/projects** – N/A

**Relationship with statewide initiatives/projects and common shared services** – The only relationship this initiative has with statewide common shared services is the requirement to utilize NCID as an authentication platform.

**Order-of-magnitude costs** – An approximated cost of \$996,000 covering a 5-year period is based upon the calculation of currently incurred cost structures. Following the ITS consolidation effort and new charge models, this cost may be significantly higher or lower.

### **Financial Management Information System**

**Summary description** – To replace the current legacy Financial Management Information System (FMIS) with a dependable and intuitive financial system capable of managing grants and providing Local Workforce Boards with accurate and timely payments.

**Problem or opportunity to be addressed** – The current system is a custom-developed legacy system with limited support. As of January 1, 2007, the ITS Application Group that originally developed the system informed our division they would no longer provide support for this application. In order to insure the continued issuance of payments, the Division of Workforce Development (DWD) established a support contract with an individual with past knowledge of the system. Additionally, there are many functions that the current system is unable to perform and due to the limitations for continued customization, we must live with them until new system is developed.

**Major objectives to be achieved and business benefits/value that will accrue to the agency/state** – The primary benefit of a new and flexible system would allow the DWD to meet the regulatory requirements that we cannot currently achieve. Included in the system requirements would be the need to capture additional details and transactional auditing logs to comply with the request of the State Auditors.

**Approach for accomplishing it** – The FMIS project will be divided into two major stages:

- **Stage 1** - addresses system procurement, which will involve:
  - Complete Request for Proposal (RFP) for distribution to potential vendors, to include set of business requirements

- Review and approval by ITS to distribute the RFP
  - Evaluation of vendor responses (may include vendor demos, if desired). The FMIS project team will lead the evaluation of the proposals
  - Selection of winning vendor and notification by ITS Procurement
  - Negotiations and signing of contract
  - Bringing vendor onboard to start project work
- **Stage 2** includes customization and implementation of the vendor solution, following the ITS/EPMO project life cycle and reporting requirements. These scope items include:
    - Moderate to light customization of a commercial off-the-shelf (COTS) product that meets the critical business requirements of the Division of Workforce Development.
    - Testing and verification of the system functionality.
    - Implementation of the system, including integration with a hosting facility if required.
    - Conversion of data from current system to new system will be required.
    - Coordinating and meeting all information security and architecture requirements.
    - User training on the new system.

**Timeframe** – It will take approximately nine months to complete the cycle from RFP to project closeout. The project will begin as soon as it is approved.

**Major risks** – Our goal is to pick a COTS product designed to work with the Workforce Investment Act (WIA) grants. Selection of an application will be significantly influenced by the proven, successful implementation and established performance of that application by another state’s Workforce Agency. The risk associated with an aggressive implementation schedule of selection, customization and deployment is acknowledged, but the sooner we can get a new system in place, it will remove the larger risk we have with our current system being unsupported. There is a low-level of risk in migrating existing data to a new system.

**Relationship with other agency IT initiatives/programs/projects** – The system would not integrate with any other systems.

**Relationship with statewide initiatives/projects and common shared services** – We have reviewed the plan for the SAP financials system and have determined that the SAP system without a Grants management portion, will not meet our needs. We also are aware that it could be four years before the standard SAP Financial application will be available. Our risks are too high to wait for that option.

**Order-of-magnitude costs** – Our funding for this project would be 100% federal funds with the program purchase and implementation to be a onetime cost of approximately \$100,000 and \$70,000/year for support, hosting, and operations & maintenance.